

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An active matrix display device comprising:  
a row and column array of picture elements  $[(12)]$ ,  
sets of row and column address conductors ~~(18, 19)~~ for selecting rows of picture elements  
and providing data signals to the picture elements of a selected row respectively,  
drive means ~~(21, 23, 25)~~ for supplying selection signals and multi-bit digital data signals  
respectively to the set of row address conductors and the set of column address conductors, and  
in which the multi-bit digital data signals supplied to the column address conductors are  
converted into analogue voltage levels for use by the picture elements by a plurality of serial  
charge redistribution digital to analogue conversion means  $[(30)]$ , each conversion means  
~~(30A, 30B, 30C)~~ comprising at least first and second capacitances interconnectable by at least  
one conversion switch  $[(31)]$  and between which charge is shared, and in which the first and  
second capacitances of a conversion means are provided by the capacitances of two column  
address conductors, wherein the drive means is arranged to alternate the supply of data signals to  
the first and second column address conductors of each conversion means.

2. (Currently Amended) A device according to Claim 1, wherein the column address  
conductor  $[(19)]$  of a conversion means to which the data signals are applied is changed after  
one or more complete multi-bit signal conversions performed by the conversion means  $[(30)]$ .

3. (Currently Amended) A device according to Claim 1, wherein the supply of data  
signals to the column address conductors  $[(19)]$  of each conversion means is controlled by a  
switch arrangement ~~(31A, 31C)~~.

4. (Original) A device according to Claim 3, wherein the switch arrangements of all conversion means are operable together by the drive means.

5. (Currently Amended) A device according to Claim 3, wherein the switch arrangement comprises a respective switch device (~~31A, 31C~~) connected between a column address conductor ~~[(19)]~~ and a serial digital data signal output ~~[(32)]~~ of the drive means.

6. (Currently Amended) A device according to claim 1, wherein the polarity of the voltage provided to the picture elements is inverted periodically, and wherein the alternation of the column conductors ~~[(19)]~~ of a conversion means to which a data signal is applied to generate the analogue voltage level for a given picture element is ~~synchronised~~ synchronized with the inversion of the picture element voltage.

7. (Currently Amended) A device according to Claim 6, wherein the drive means and the conversion means are operable such that for a given picture element the column address conductor ~~[(19)]~~ of its associated conversion means to which a data signal is applied is changed each time the polarity of the picture element voltage is inverted.

8. (Original) A device according to Claim 6, wherein the drive means and the conversion means are operable such that for a given picture element the column address conductor of its associated conversion means to which a data signal is applied is changed every second time the polarity of the picture element is inverted.

9. (Previously Presented) A device according to claim 1, wherein the picture elements comprise liquid crystal display elements.

10. (Original) A device according to Claim 9, wherein the drive means is arranged to alternate the supply of data to the first and second column address conductors with a period which is shorter than the response time of the liquid crystal material.

11. (New) The device according to claim 1 in which during one mode of operation of the display device, when data signals are supplied from the drive means to the first column address conductor, the data signals are not supplied to the second column address conductor, and when data signals are supplied from the drive means to the second column address conductor, the data signals are not supplied to the first column address conductor.

12. (New) An active matrix display device comprising:  
an array of picture elements;  
pairs of column conductors for providing data signals to the picture elements;  
at least one column driver to supply multi-bit digital data signals to the pairs of column conductors;  
switches connected between the at least one column driver and respective column conductors and between pairs of column conductors; and  
a controller to control switching of the switches to enable each pair of column conductors and associated capacitances to function as charge redistribution digital to analog converters to convert the multi-bit digital data signals into analog signals for use by the picture elements, the controller controlling the switches such that the column driver alternately supplies digital data signals to the two column conductors of each pair of column conductors to generate the analog signals for a given picture element.

13. (New) The device of claim 12 in which during one mode of operation of the device, when a data signal is supplied from the column driver to a first one of a pair of column conductors, the data signal is not supplied to the second one of the pair of column conductors, and when a data signal is supplied from the column driver to the second one of the pair of

column conductors, the data signal is not supplied to the first one of the pair of column conductors.

14. (New) The device of claim 12 in which during a first period, the controller controls the switches to cause a first multi-bit digital data signal to be sent from the column driver to a first column conductor of each pair of column conductors, and causes redistribution of charges between the two column conductors of each pair of column conductors to convert the first multi-bit digital data signal to a first analog signal, and

during a second period of time, the controller controls the switches to cause a second multi-bit digital data signal to be sent from the column driver to a second column conductor of each pair of column conductors, and causes redistribution of charges between the two column conductors of each pair of column conductors to convert the second multi-bit digital data signal to a second analog signal.

15. (New) The device of claim 12 in which the polarity of the voltage provided to the picture elements is inverted periodically, and the alternation of the column conductors of each pair of column conductors to which data signals are applied to generate the analog voltage levels for a given picture element is synchronized with the inversion of the picture element voltage.

16. (New) The device of claim 12 in which the picture elements comprise liquid crystal display elements.

17. (New) A method of operating an active matrix display, comprising:  
providing a first multi-bit digital data signal to a first column conductor of a pair of column conductors in an active matrix display;  
redistributing charges between the two column conductors of the pair of column conductors to convert the first multi-bit digital data signal to a first analog signal;  
driving one of a plurality of picture elements of the display using the first analog signal;

providing a second multi-bit digital data signal to a second column conductor of each pair of column conductors;

redistributing charges between the two column conductors of each pair of column conductors to convert the second multi-bit digital data signal to a second analog signal; and driving one of the plurality of picture elements using the second analog signal.

18. (New) The method of claim 17, comprising inverting the polarity of the voltage provided to the picture elements periodically, and synchronizing the inversion of the picture element voltage with the alternation of the column conductors of each pair of column conductors to which data signals are applied to generate the analog voltage levels for a given picture element.

19. (New) The method of claim 18, comprising changing the column conductor to which a digital data signal is applied for a given picture element each time the polarity of the picture element voltage is inverted.

20. (New) The method of claim 18, comprising changing the column conductor to which a digital data signal is applied for a given picture element every integer number of times the polarity of the picture element voltage is inverted, the integer number being greater than 1.